UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

NOV 23 1993

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FILE PLAN
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Ref: 8HWM-SR

Dr. Frank E. Dotson
847A Missouri Street
San Diego, California 92109

RE: Richardson Flats - Prospector Square Vicinity

Dear Dr. Dotson:

This letter responds to your inquiries to the Environmental Protection Agency (EPA) described in your letters dated September 28, 1993, and October 1, 1993.

In your first letter, you referred to a Park City exemption to certain EPA "clean-up levels" for lead and arsenic. In Park City, there is no exemption to EPA "clean-up levels". EPA, in 1988, provided a recommendation for temporary measures that could be taken quickly and expeditiously by Park City to minimize the health risks from the heavy metal contaminants present in mill tailings and soils in the Park City vicinity. This recommendation was provided to Park City in my letter of July 28, 1988, to Ms. Arlene Loble, City Manager of the Park City Municipal Corporation, a copy of which you state you have in your possession and which I have enclosed with this letter. In this letter, I state that EPA recommends a minimum six-inch soil cover over the exposed tailings and residential soils as a temporary measure, but that a two-foot soil cover, together with other ordinance and regulatory considerations, should be utilized for longer term effective protection measures. I am not aware of any formal agreement between the Utah Department of Environmental Quality (UDEQ) and EPA regarding a Park City exemption. My 1988 letter to Ms. Loble is the closest thing I know of to such an agreement.

You also questioned why EPA does not simply apply the Park City remedial recommendations to other mining sites in Utah, Idaho, and Colorado. Such an approach does not fulfill the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or Superfund. In determining a clean-up approach in accordance with CERCLA, a specific mill tailings site must be evaluated upon its own physical, chemical, and exposure pathway characteristics. A capping remedy at one site requiring six inches of cover material as a temporary measure is not uniformly applicable to other sites, however visually similar they may first appear to be. The remedial measures taken to date at Prospector Square provide no precedent for future actions that may be taken at other sites in the Park City vicinity or elsewhere.

Your second letter raised issues about EPA's use of the Toxicity Characteristics Leaching Procedure (TCLP) as opposed to the Synthetic Precipitation Leaching Procedure (SPLP) in characterizing mine tailings. Recent testing by EPA headquarters personnel indicates that the SPLP may not be any more rigorous at extracting leachable trace element concentrations from mill tailings than the TCLP. Reverse relationships frequently occur depending upon the specific element as well as the variable nature of the physical and chemical characterization of the tailings and the mineral speciation. For further current information on this subject, you may wish to contact:

Gail Hansen, Chief
Methods Section
Characterization and Assessment Division
Office of Solid Waste
U.S. Environmental Protection Agency
Washington, D.C. 20460
Tel.: (202) 260-4761

For your information, a copy of an article entitled "Comparison of TCLP/SPLP Results on EPA Cement Kiln Dust Test Data," prepared by Michael A. Gansecki, October 14, 1993, is enclosed.

Your second letter also raised questions about the practice of placing tailings back into mines for purposes of ultimate disposal. EPA has no official or approved blanket policy for placing tailings back into mine workings. However, given certain site-specific circumstances, such a practice may be an appropriate remedial measure. For instance, EPA is planning on employing this general approach to the disposal of mine waste at the Summitville Proposed National Priorities List Site in Colorado.

Throughout its history, the mining industry has back-filled underground mine workings with waste rock and mill tailings for ground support purposes as well as for surface clean-up. EPA accepts these practices as normal operating procedures for underground workings and open pits, but environmental safeguards under CERCLA, the Resource Conservation and Recovery Act (RCRA), the Clean Water Act, and any other applicable Federal, State or local environmental law must be met. In some cases, tailings have been mixed with lime and other materials to assist in the "set-up" of the unconsolidated material and to neutralize and contain acids derived from the emplaced tailings.

You also inquired about the practice of mixing tailings with cement to render them less hazardous. Solidification/stabilization using some kind of cementatious mixture is often the prescribed treatment method for hazardous wastes containing TCLP metals in an effort to comply with RCRA's land disposal restrictions.

Thank you for your inquiry to EPA. I hope this letter responds in full to the questions you raised about Prospector Square and mill tailings in general. If you have any further questions on the issues discussed in this letter, please contact Mr. Michael McCeney, EPA Remedial Project Manager, at (303) 294-7169.

Sincerely,

Robert L. Duprey, Director
Hazardous Waste Management Division

Enclosures

cc: Senator Orin Hatch
Kent Gray, Utah Department of Environmental Quality

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Sincerely,

Robert L. Duprey, Director
Hazardous Waste Management Division

Enclosure 5

FCD: October 21, 1993, bc, ars, C:\DATA\WP\CARLSON\DOTSON.LET

cc: Ken Gray, UDEQ w/ Enclosures.

bcc: Mo Slam, UDEQ w/ Enclosures
Rick Baird, 8ORC
Luke Chavez, 8HWM-SM
Greg Oberley, 8HWM-SM
Mike Zimmerman, 8HWM-ERB
Michael McCeney 8HWM-SR
Bill Carlson, 8HWM-SR

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month & day should not be separated

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Sincerely,

Original Signed By
Robert L. Duprey

Robert L. Duprey, Director
Hazardous Waste Management Division

Enclosures

cc: Senator Orin Hatch
Kent Gray, Utah Department of Environmental Quality

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bcc: Mo Slam, UDEQ w/ enclosures
Rick Baird, w/o enclosures
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The Park City exemption to which you refer is not an exemption, but a recommendation for temporary measures that can be taken quickly and expeditiously by Park City to minimize the health risks from the heavy metal contaminants present in mill tailings and soils in the Park City vicinity, including the Richardson Flats and Prospector Square sites. In my letter of July 28, 1988, to Ms. Arlene Loble, City Manager of the Park City Municipal Corporation, a copy of which you state you have in your possession, I state that EPA recommends a minimum six-inch soil cover over the exposed tailings and residential soils as a temporary measure, but that a two-foot soil cover, together with other ordinance and regulatory considerations, should be utilized for longer term effective protection measures. There is no formal agreement between the Utah Department of Environmental Quality (UDEQ) and EPA regarding a Park City exemption.

good!

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You also wanted info... TCLP vs SPLP

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Chief
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Throughout its history, the mining industry has back-filled underground mine workings with waste rock and mill tailings for ground support purposes as well as for surface clean-up. EPA accepts these practices as normal operating procedures for underground workings and open pits, but environmental safeguards under CERCLA, RCRA, and CWA must be met. In some cases, tailings have been mixed with lime and other materials to assist in the "set-up" of the unconsolidated material and to neutralize and contain acids derived from the emplaced tailings. If the mill tailings are determined to be a hazardous waste by TCLP, they are subject to the RCRA land disposal restrictions (LDR), as long as they are not exempt as a solid waste under the RCRA Bevill provisions. If the tailings are a hazardous waste subject to LDR, they cannot be disposed of until the treatment standards are met.

Solidification/stabilization using some kind of cementitious mixture is the prescribed LDR treatment method for hazardous wastes containing TCLP metals. Measured levels below these TCLP limits following treatment would allow them to be land disposed at a Subtitle C facility or elsewhere (see enclosure). For hazardous wastes which are hazardous by a characteristic (e.g., above a certain metals TCLP toxicity limit), removal of that characteristic makes them no longer a hazardous waste. They could then be disposed as a non-hazardous solid waste which could include deposition in an open pit or underground mine.

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